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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,099	03/22/2001	Masanori Ikari	010270	2044

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WASHINGTON, DC 20006

EXAMINER

NGUYEN, THU V

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 05/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/814,099

Applicant(s)

IKARI, MASANORI

Examiner

Thu V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 4-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 11 is/are rejected.
- 7) ☒ Claim(s) 2,3,12 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

The respond to the restriction requirement submitted on April 1, 2002 has been received and considered. By this response, group I (claims 1-3 and 11-13) has been elected without traverse. Applicant is required to cancel the non elected claims 4-10 when the application is allowed

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. The disclosed Japanese publication No. 2000-96601 in the specification page 2, line 9 is not considered.

Drawings

2. The figure 5 is objected to because:
- a. In fig.5, in the first box, the "S4 in fig.4 or fig.9" should be corrected to "S4 in fig.3 or fig.9".

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- b. In fig.5, box S7, the "Em > Em1" should be corrected to "Em < Em1" to correspond with the details disclosed in the specification page 28, lines 12-14.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:
- a. In the specification page 1, line 14, 16; and page 2, line 3, the "fig.9" should be corrected to "fig.10".
- b. In the specification page 23, line 5, the "detector 31 and 32" should be corrected to "detector 31 and 33" to correspond with the number index in fig.2.
4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

5. Claim 11 is objected to because of the following informalities:

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In claim 11, lines 31-32, the claimed "the boom lever operating amount changed at a zero amount from a predetermined operating amount" should be corrected to "the boom lever operating amount changed to a zero amount from a predetermined operating amount".

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinugawa et al (U.S Patent No. 5,999,872).

As per claim 1, Kinugawa discloses a working unit control apparatus of an excavating and loading machine which comprises: a boom cylinder 4 (fig.1)(col.17, line 18); a boom control valve 11 (fig.1) (col.17, line 30); a boom lever 17 (fig.1) (col.17, line 50); a boom lever operating amount detector 25 (fig.1) (col.18, lines 4-5); a bucket cylinder 6 (fig.1) (col.17, line 20); a bucket control valve 12 (fig.1) (col.17, lines 31-32); a bucket lever 18 (fig.1) (col.17, lines 50-51); a bucket lever operating amount detector 26 (fig.1) (col.18, line 5); an excavating state detecting means for detecting an excavating state of the vehicle (col.14, lines 27-33); a load judging portion for judging whether the vehicle is under excavation (col.14, lines 34-37; col.30,

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lines 44-51); and an automatic excavation control means that sets and outputs an automatic command value to each of the control valves on the basis of the load judgement portion (col.25, lines 54-59; col.31, lines 2-7; col.36, lines 40-46).

Kinugawa does not explicitly teach that the automatic excavation control means judges an automatic excavation start when the boom level is operated and the vehicle is judged to be under excavation. However, Kinugawa teaches judging automatic excavation condition based on the operation of the boom lever and the operating amount of the levers (col.30, lines 34-55). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to determine excavation start condition by continuously monitoring the boom lever changes in the result of the load judging portion of Kinugawa to determine the excavation start condition when the boom lever changes by a predetermine threshold value in order to provide appropriate control to the control valves of the boom and bucket in time.

Kinugawa does not explicitly disclose a controller for outputting a boom control command value and bucket control command value on the basis of data from the boom and bucket lever operating amount detector, and an automatic excavation control means for setting and outputting an automatic excavation command value to each of the control valve. However, using a controller and an automatic excavating control means to provide automatic control to the valves would have been well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement a well known controller and an automatic

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excavation control means to the working unit of Kinugawa in order to automatically control the operating angle of the boom and bucket for a specific operation task.

As per claim 11, refer to discussion in claim 1 above. Further, Kinugawa teaches an operating amount change judging portion for judging that the boom lever operating amount changes to a zero amount (the neutral position) from a predetermined operating amount (col.35, lines 21-34).

Allowable Subject Matter

8. Claims 2-3 and 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior art of record does not disclose a working unit control apparatus of an excavating and loading machine set forth in the independent claims 1 and 13, in combination with either claim 2, 12 or 3, 13 respectively. Specifically, prior art of record does not teach the excavating machine of claim 1 or 13 having an excavating state detecting means that is constituted by a vehicle speed detector and engine rotational speed detector, and a load judging portion the judges that the vehicle is under excavation when the vehicle speed is equal to or less than a value shown by a predetermined curve relating to the engine rotational speed. Further, prior art of record does not disclose an excavating machine of claim 1 or 13 having an excavating state detecting means that is

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constituted by an accelerator pedal operating amount detector that detects an accelerator pedal operating amount, and an engine rotational speed detector that detects an engine rotational speed; and a load judging portion that judges that the vehicle is under excavation when the accelerator pedal operating amount is equal to or more than a predetermined operating amount and the engine rotational speed is equal to or less than a predetermined rotational speed.

Cited Prior Arts

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - a. Oertley (U.S Patent No. 6,280,010 B1) teaches detecting excavation and control the boom and bucket accordingly (col.16, lines 41-65; col.25, lines 28-37, lines 51-67; col.26, lines 1-30).
 - b. Kim et al (U.S Patent No. 5,787,787) teaches controlling the excavation and driving state of the excavating vehicle (col.3, lines 54-67; col.4, lines 43-58).
 - c. Tohji et al (U.S Patent No. 5,950,430) teaches controlling circuit in a hydraulic excavator.

Any response to this action should be mailed to:

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(703) 305-7687, (for formal communications intended for entry)

Or:

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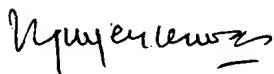
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park V, 2451 Crystal Drive,
Arlington. VA., Seventh Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (703) 306-9130. The examiner can normally be reached on Monday-Thursday from 8:00 am to 6:00 pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski, can be reached on (703) 308-3873. The fax phone number for this Group is (703)305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)308-1111.



Thu Nguyen

May 8, 2002